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USDA ✪ APHIS ✪ PPQ

CPHST NEWS

The New Diagnostic Tools for PPQ Team

April 2006

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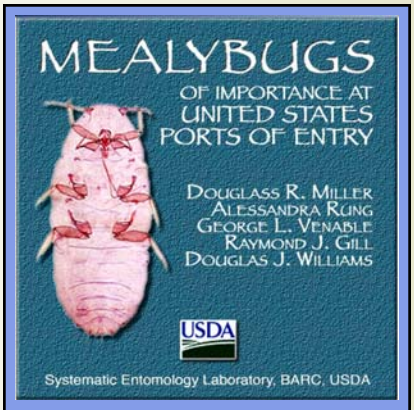
Inside this issue:

CPHST is pleased to announce the release of three new Lucid diagnostic tools for the PPQ Team. In addition to these three tools, CPHST has coordinated, during the past four years, the development of a number of other quarantine-based identification tools based on Lucid software. The Lucid package of software products (www.lucidcentral.org) offers multi-platform, web-based software tools for identification, information gathering, diagnoses, and fact sheet production. The various software programs have an amazing number of positive attributes that support increasing efficiency and accuracy for identifications and diagnoses.

In February of this year, CPHST announced the release of *Cut Flower Exports of Africa* (http://www.lucidcentral.org/cutflowers.htm), a diagnostic tool created by **Julia Scher** using Lucid identification software. The tool was produced through a cooperative agreement between CPHST and North Carolina State University with additional support from the California Department of Food & Agriculture.

Home Page for Cut Flower Exports of Africa. *CPHST's Lucid3 diagnostic tool* Cut Flower Exports of Africa *helps users recognize the wide variety of both common and unusual flowers grown in Africa for export (most of which are not native to Africa).*

Previously Julia authored one of CPHST's more popular Lucid tools—*Federal Noxious Weed Disseminules of the U.S.* (http://www.lucidcentral.org/keys/FNW/). As part of CPHST's new identification technology team, Julia will continue to develop analytical keys, both directly for CPHST and in



Home Page for Mealybugs of Importance. Mealybugs of Importance at United States Ports of Entry *includes all determined species that were intercepted at U.S. ports of entry during the past five years.*

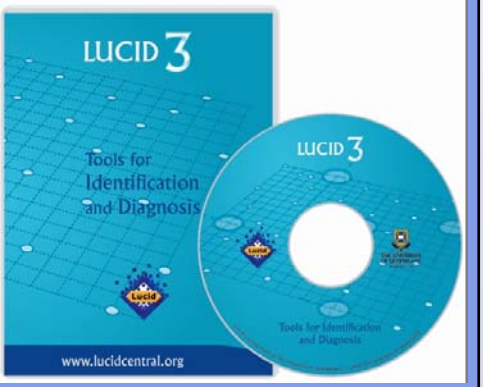
collaboration with taxonomists from other institutions and agencies. She will also promote and encourage the use of Lucid tools within APHIS through presentations and workshops.

CPHST's identification technology team is also proud to announce the release of two other valuable Lucid keys resulting from collaboration between CPHST and USDA-ARS-SEL: *Mealybugs of Importance at United States Ports of Entry* and *Scale Families* (http://www.ars.usda.gov/Main/docs.htm?docid=11385).

These three diagnostic tools were each developed using a powerful and major new

continued on the next page

release of Lucid software by the Centre for Biological Information (CBIT), University of Queensland, called Lucid3. Lucid3 is a cross-platform implementation, written in Java, that will run on any Java-enabled operating system such as Windows, Macintosh, Unix, Linux, Solaris, etc. Additionally, Lucid3 keys have the advantage that installation of a Lucid software "Player" program is not necessary. Along with the interactive identification key component (a Java applet), CPHST-produced Lucid3 identification tools include images, fact sheets, and other information on easily accessible html pages.



Lucid3. *Lucid3 is a new implementation of the Lucid matrix key system for creating and deploying effective and powerful identification and diagnostic tools.*

CBIT continues to modify the Lucid3 program to improve its speed, stability, multimedia-handling enhancements, and user interface. Release of Lucid 3.4 is planned for 2006. APHIS has a site-wide license for Lucid3 key building software, as well as for Lucid Phoenix, a program to convert existing dichotomous keys printed in books and journals into interactive keys. APHIS employees interested in obtaining copies of these programs should contact **Terrence Walters** (terrence.w.walters@aphis.usda.gov). For further details concerning Lucid3 and other members within the Lucid family of products, visit www.lucidcentral.org.

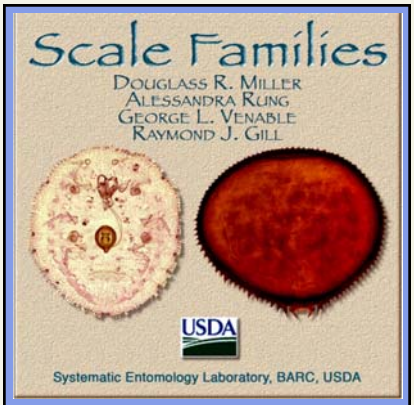
The identification technology team continues to support the use of Lucid tools within PPQ. In March, the team sponsored two separate workshops (in Raleigh, NC and Fort Collins, CO) to train individuals planning to develop future Lucid3 quarantine-based diagnostic tools. Over 54 individuals expressed interest in filling the workshops' 27 available spaces. The identification technology team, in support of Lucid end-users, presented seminars for the NPDN/WPDN Homoptera Workshop in Davis, California in March and the National IPM Symposium in St. Louis, Illinois in early April.

In other projects this year, the identification technology team will collaborate with various taxonomists to develop or update tools of value to PPQ:

- **Dr. Shaun Winterton** (CDFA) and Julia will be completing a major update to Shaun's 2004 *Aquarium and Pond Plants of the World Key*,
- In collaboration with the University of Nebraska and the CPHST's Decision Support & Pest Management Systems Laboratory, with support from PPQ-WR, *Common Grasshoppers of the United States* (originally released in April 2004) will be updated during the next two years with the addition of a large number of new taxa,
- In collaboration with Delaware State University, PPQ Eastern Region, and CPHST, **Dr. Arthur Tucker** is developing a diagnostic tool *Potpourri Ingredients on the U.S. Market*, with plans to release the tool in 2007,
- **Dr. Douglass Miller** and his team (ARS-SEL), with support from CPHST and NIS, will be completing their Lucid *Soft Scale Species Intercepted at U.S. Ports of Entry*, and
- Colorado State University, Montana State University, and CPHST, with additional support from USDA-CSREES, will initiate a diagnostic tool to the small grains of the western United States.

Submitted by Terrence Walters & Julia Scher

Home Page for Aquarium. *Aquarium and Pond Plants of the World*, First Edition, was released in April 2004 and is one of CPHST's most widely used keys. In collaboration with the California Department of Food & Agriculture (CDFA), this tool will be expanded and revised to improve its usefulness and effectiveness. The second edition will include a number of new aquatic genera to the key and fact sheets, additional new images and replacement of some existing images with higher quality images, modification and reformatting of the key matrix and html pages, and upgrade to the latest version of Lucid.



Home Page for Scale Families. The Lucid3 diagnostic tool *Scale Families* covers all extant scale insect families, including a subset key that covers only the families commonly intercepted at U.S. ports of entry. The subset key assists identifiers with determinations without having to wade through all of the numerous obscure scale families.

http://www.ars.usda.gov/Main/docs.htm?docid=11385

CPHST Scientist Tours the Australian *Sirex noctilio* Program

April 2006

Sirex noctilio, a worldwide pest of pines, particularly of pine plantations in the southern hemisphere, was discovered in New York State in 2004, and has the potential to become a serious pest of forest resources in the United States if not managed. This siricid woodwasp kills pines through injection of toxic mucus and a symbiotic wood fungus at the time that it lays eggs. Sirex invaded Australia in the 1950s, and since that time, scientists in the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and state forestry agencies have developed a very successful tripartite management program that includes survey, silvicultural management, and biological control with a parasitic nematode and several species of imported parasitic wasps. **David Williams** of the Otis Pest Survey Detection and Exclusion Lab visited Australia for two weeks in September 2005 to gain knowledge of the sirex program for possible application to a developing program in the U.S.

Sirex noctilio

Williams started his visit in Sydney, where he contacted **Angus Carnegie** of the New South Wales Division of Primary Industries. They toured field plots in the Macquarie Region west of Sydney, and Williams observed sirex damage and viewed the components of the management program on the ground.

Williams next drove to Canberra, the Australian capital and center of CSIRO operations. He met with **Robin Bedding**, a recently retired chief research scientist with CSIRO, and discussed the biology of *Beddingia siricidicola*, the parasitic nematode that is the keystone of the sirex biological control program. Bedding subsequently developed the rearing and delivery system for implementing this entomoparasite as a biological control agent. While employed by CSIRO in the early 1990s, Bedding patented the technology for using *B. siricidicola* in sirex control. CSIRO recently sold the license to culture and market the nematode to Ecogrow, an Australian company that specializes in the production of entomoparasitic nematodes for many applications. While in Canberra, Williams also talked with **Joseph Blaney**, the CEO of Ecogrow, to get the commercial perspective on biological control systems using nematodes.

The second week, Williams flew south to Melbourne and then drove west to Mount Gambier in South Australia. He visited **Charlma Phillips**, an entomologist with ForestrySA, and had another tour of field sites and overview of management operations. On returning to Melbourne, Williams completed his tour with a discussion of the implementation and effectiveness of sirex biological control with **Nick Collett**, an entomologist at the University of Melbourne.

Clearly pine ecosystems in Australia and North America are very different. Australia has no native pines, and most pines occurring there are North American species grown in extensive plantation monocultures. By contrast, North America holds a diversity of native pine species that grow both naturally and in culture. Although the Australian management model may not be completely transferable to the U.S., the biological control component certainly needs to be implemented here, as the sirex nematode does not occur in North America. Williams is currently in the process of importing the nematode and culturing it for eventual release.

Submitted by David Williams

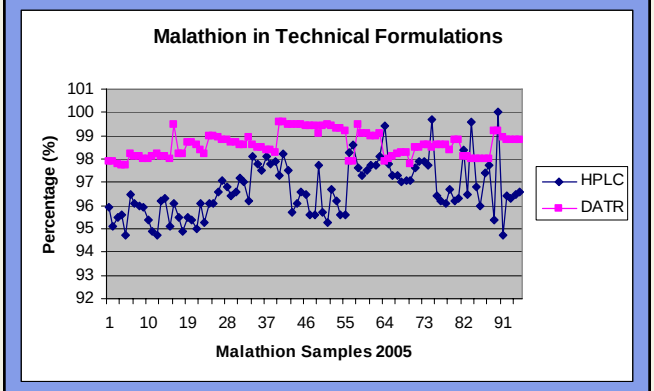
ForestrySA entomologists, Garry Duff and Charlma Phillips (right), and David Williams (left) inspect a Monterey pine killed by sirex in Mount Gambier, South Australia.

Determination of Malathion in Technical Formulations using DATR-FTIR Spectroscopy

April 2006

Migrating from Mexico to the United States around 1892, the boll weevil (*Anthonomus grandus* Boheman) has caused great destruction of cotton crops in the southern states. In 1978, the boll weevil eradication program was initiated by the U.S. Department of Agriculture (USDA) in an attempt to successfully grow weevil free cotton. Malathion is the pesticide of choice for the elimination of the boll weevil. The Environmental Monitoring Team (EMT), under the guidance of Animal and Plant Health Inspection Service (APHIS) and Plant Protection and Quarantine (PPQ), implements safe application of the malathion pesticide. The purity of the malathion must be determined to meet safety statutes mandated by the National Environmental Protection Act, the Food Quality Protection Act, and the Endangered Species Act. It is also essential that the chemicals are of good quality to prevent waste. EMT requires that the CPHST-Analytical and Natural Products Chemistry Laboratory (ANPCL) in Gulfport, MS confirm malathion technical samples collected from distribution warehouses, airfields, and other storage areas.

Currently the ANPCL uses High Performance Liquid Chromatography (HPLC) with ultraviolet (UV) detection for the determination of malathion in technical formulations. The HPLC method provides an accurate measure of malathion in technical formulations.



EMT 2005 malathion samples analyzed by HPLC method are shown in blue and DATR are shown in pink.

With a TravelIR HCI™ from SensIR Technologies, **Sue Von Drasek**, a chemist with the ANPCL, has developed an alternative method for the confirmation of malathion in technical formulations. A drop of sample is placed directly upon the Diamond Attenuated Total Reflection (DART) sampling interface. Then, the Fourier Transform Infrared Spectroscopy (FTIR) generates infrared energy through the diamond prism vibrating the chemical bonds of the molecules producing a unique spectrum. The spectrum of the sample is compared to that of a known Chemi Nova standard, and the determination of the quality of the spectral match is generated. A high percentage of spectral match indicates that the malathion sample is primarily malathion without diluents or major contaminants. A comparison study using EMT 2005 samples shows the DATR-FTIR spectroscopy method can confirm results obtained by HPLC.

Submitted by Sue Von Drasek

Peer Review of CPHST Scientists

April 2006

The third peer review panel session of CPHST scientists was conducted during the week of March 6 in Raleigh, NC. There were 31 scientists reviewed during this cycle. A total of 24 and 22 scientists were evaluated in 2004 and 2005, respectively. The case format was significantly changed this year based on feedback from scientists compiling their information, as well as from the case reviewers. Greater emphasis was placed on specific scientific and technical accomplishments that benefited PPQ programs. Contributions made by scientists prior to joining the agency were typically considered relative to their overall scientific merit. A large portion of the cases could be generated using the CPHST Workbench software program, reducing the overall time necessary for scientists to prepare their case materials.

The CPHST Peer Review was established to identify the accomplishments of scientific staff and appropriately recognize the significance of their contributions to PPQ and the greater scientific community. The review evaluates an individual scientist's accomplishments, technical expertise and professional stature through a panel of peer scientists and operational staff from Riverdale, the regional offices and the ranks of the State Plant Health Directors. Periodic review of CPHST scientists was one recommendation of the Safeguarding Review Committee.

Scientists benefit from the process by receiving a confidential panel report that contains information about the value of their accomplishments and impact to operational programs, as well as the scientific merit and overall contributions to their field of science. They also receive suggestions on how they may increase the value of their accomplishments to the agency and recommendations regarding technical training or leadership development to be used for career advancement.

Submitted by Alan Dowdy

Setting New Directions at the Center for Biological Control, FAMU

April 2006

The Center for Biological Control at Florida A&M University in Tallahassee, FL was established in 1999 as one of the Research Centers within the College of Engineering Sciences, Technology and Agriculture (CESTA). The Center is made up of a unique partnership between Florida A&M University and the Animal and Plant Health Inspection Service (APHIS) and Agricultural Research Service (ARS) of the United States Department of Agriculture (USDA). The mission of the Center is "to generate and apply innovative, ecologically based solutions to pest problems affecting agriculture, natural resources, and human health while developing the human capacity for continued future innovation."

In 2005 the Center appointed a new director, **Dr. Moses Kairo**, a graduate of Imperial College London. Before joining the Center, Dr. Kairo was employed by CAB International as director of the Caribbean and Latin America Regional Center in Trinidad and Tobago. Dr. Kairo is an entomologist by training and has been involved in a range of projects mainly focusing on management of invasive species in Africa, Middle East, UK, Caribbean and Latin America.

APHIS and FAMU Administrators discuss the development of a new Plant Protection and Regulatory Science Minor at FAMU.

One of the early tasks of the new director was to coordinate developing a new strategic plan for the Center for 2006-2010. This task was completed in December 2005 when the plan was endorsed by the newly constituted Center Advisory Committee. The plan links directly to CESTA's strategic plan, as well as to those of the Center's key partners, APHIS and ARS. The long-term goal of the Center is to become a nationally recognized Center for ecologically based pest management that is defined by excellence through high quality research, effective training, direct implementation and collaborative partnerships with its stakeholders. The Center's activities will be focused around four key objectives as follows:

- To generate and apply knowledge with a particular focus on invasive alien species and development of ecologically based management of pests in agro-ecosystems.
- To develop human capacity for continued future innovation, through undergraduate, graduate, and specialist training and internships.
- To implement innovative knowledge transfer and public outreach efforts, ensuring that solutions generated by the Center positively impact the targeted end users.
- To ensure operational effectiveness and growth of the Center.

Within APHIS-PPQ, CPHST has provided the technical link with the Center through **Dr. Ken Bloem**, who was based in Tallahassee, FL from November 1998 to June 2005. In July 2005 Dr. Bloem accepted the position of Biological Control Coordinator for CPHST in Raleigh, NC. As part of his national responsibilities, he continues to be actively involved in the Center through oversight of the specific Cooperative Agreement between APHIS and FAMU and participation on the Center's Advisory Council. ARS has three fulltime scientists working at the Center and has recently approved a new project (2005-2010) on the management of invasive species.

Since 2000, the Center has graduated nine students with Master's degrees of Agricultural Sciences emphasizing Biological Control. Dr. Bloem was the major professor for, and APHIS-PPQ helped support the research projects of, four of these students. Their thesis research addressed PPQ concerns about the potential spread of new spider mites species/strains included as food sources in commercial shipments of predatory mites; the spread of the invasive cactus moth, *Cactoblastis cactorum*; the need for more rapid bioassays to assess the susceptibility of new grape cultivars to Pierce's Disease; and the development of trapping protocols for the pink hibiscus mealybug.

Dr. Muhammad Haseeb and Ph.D. student Antonio Francis discuss the development of an expert identification (Lucid) key for invasive weevils.

APHIS' continued collaboration with FAMU was discussed during recent visits to the Center by **Drs. Richard Dunkle** (APHIS Deputy Administrator) and **Gordon Gordh** (CPHST Director). One exciting new possibility is the establishment of a minor in Plant Protection and Regulatory Science, similar to the one being developed by CPHST in collaboration with North Carolina State University in Raleigh, NC. As part of the new minor, FAMU students would do a semester in residence at NCSU to allow them to take the keystone course "Challenges in Plant Resource Protection" being taught by CPHST scientists during the spring semester and interact more closely with CPHST and Regional staff on specific, intern-type projects. The objective is to develop capacity in plant health issues among FAMU graduates in order to provide a well trained workforce for potential future employment with APHIS-PPQ.

Some of the current activities at the Center include projects on:

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- Development of biologically based techniques to limit the dispersal of invasive pests.
- Development of Lucid keys for pestiferous Coleoptera.
- Development of the sterile insect technique as a tactic for the containment and management of the cactus moth.
- Assessment of the economic impact of tropical soda apple on the Florida cattle industry, including an examination of the cost-benefits associated with the use of biological control against this weed.
- Improving offshore mitigation strategies for invasive pests coming from the Caribbean and Central America.
- In-situ and in-vivo studies on the biological control of cogon grass, *Imperata cylindrical*, an invasive species in the gulf coast states.
- Use of fungal pathogens to control varroa mite in honey bee populations and management of miticide resistance in *Varroa destructor*, an important ectoparasite of the honey bee.

By undertaking these kinds of projects and through other activities including training and outreach, it is anticipated that the Center will fully realize its vision "to secure food, natural resources and human health."

Submitted by Ken Bloem & Moses Kairo

NAPPQM
April 2006

The National Association of Plant Protection and Quarantine Managers (NAPPQM) is a professional management organization. The organization was formed in 1974, and was granted consultative status by the PPQ Deputy Administrator in January 1975. Our members vary from the Associate Deputy Administrator, State Plant Health Directors, first line supervisors, management analysts, and staff officers, to name a few. Our mission is to assist the Deputy in assuring all qualified employees have an opportunity to make equal contributions toward developing and carrying out program policies. We promote understanding, fairness, courtesy, opportunity, recognition and fellowship. We are able to move politically charged issues up to the Deputy's level without identifying the source.

NAPPQM represents membership in matters pertaining to pertinent legislation, management, professional and public affairs. We like to provide tools and networks to our members so they can serve as premier examples of professional managers within APHIS.

I recently served on a CPHST Peer Review Panel, during which, I recognized that the CPHST staff would greatly benefit from a NAPPQM membership. It would widen their exposure to other facets of the agency and help increase their professional network, as well as learn how CPHST's work impacts the APHIS mission.

Other benefits to becoming an NAPPQM member include the opportunity to attend an annual convention each year. This year it will be held in Chicago on July 12-15, 2006. Normally there is a day and a half of presentations that includes at least one representative from the Deputy's office and other members of the APHIS family, such as representatives from Employee Relations and Labor Relations. Depending on issues facing our managers, we offer a training component either from the internal APHIS training section or an outside contract source. Our convention provides a venue with numerous levels of management. This is a rare opportunity to network with managers from across the nation and program areas. The last day of the convention includes a business meeting to assess our accomplishments for the year, discuss issues affecting our members, and strategy/initiatives to focus on for the coming year. Members who attend are reimbursed the majority of their travel costs.

As a member, you will receive a quarterly newsletter, with articles submitted by the vice presidents of each region (NE, SE, CR, WR and HQ/IS), APHIS program managers, the Deputy's Office, and CPHST, along with committee reports from our representatives who serve on National APHIS Committees. Monthly NAPPQM Executive team conference call minutes are shared with the members. Members are issued a NAPPQM pin to wear to identify themselves as a proud NAPPQM member.

The association recommends that all of its members purchase professional liability insurance. Depending on the company you select, the agency pays half of the annual fee and NAPPQM refunds $50 for liability insurance each year. This means coverage for a year can cost a member a little over $100.

As a NAPPQM member, you have an opportunity to make a difference in various venues and serve on national committees. Best of all, you have a new voice and an opportunity to meet some of the finest managers in APHIS!

I hope you will consider joining NAPPQM.

Submitted by Donna West
NAPPQM President

Weed Seed Contaminants of Rice and Oats (HPLC)

April 2006

Noxious weeds continue to impact U.S. agriculture by reducing yields and requiring the use of herbicides particularly on oats and rice. The estimated cost of noxious weed impact is $30 billion per year. Millions of tons of import shipments and international baggage are the primary contributors to the introduction of noxious weeds. Due to several factors, including hybridization, variation in seed morphology, soil condition, and environment, it is difficult to identify noxious weed seeds by morphology.

G.W. Freeman, of the New Jersey Department of Agriculture, has demonstrated that ethanol soluble proteins can be used to provide a positive identification of noxious weed seeds and cultivars for oats and rice. This procedure is applicable to a single seed or multiple seeds of the same variety and uses pattern matching of the High Pressure Liquid Chromatography (HPLC) traces of known extracts to identify the unknown seed. The Analytical and Natural Products Chemistry Laboratory (ANPCL) in Gulfport, MS has modified (due to instrument differences), stabilized, developed an internal standard for, demonstrated long-term repeatability, validated, and standardized the method developed by Mr. Freeman.

The method consists of pulverization of the seed or seeds, extraction with aqueous ethanol, filtration and chromatography on an HPLC. The peaks obtained are then matched against known chromatograms. Our experience has shown that the same varieties consistently give the same patterns. We have looked at the common cultivars of rice and oats grown in the United States and the weeds normally associated with them and have found that each gives a different identifiable pattern. We have concluded from this work that not only can we identify weeds from cultivars but we can identify varieties of cultivars as well.

As an extension of this work, we have also looked at grapes, avocados and potatoes as a complement to our commodity source work. What we have found is that different varieties of grapes from the same vineyard give different patterns. The same variety of potatoes from North Dakota and Idaho give the same HPLC patterns but different isotopic ratios by ICP/MS. Booth avocados from Florida give the same pattern while supposed Booth avocados from the Dominican Republic give many different patterns which indicates a mixture of varieties. We were able to determine if a shipment of peanuts from China had or had not been heat treated using this method. Thus, this method appears to be a valuable complement to the commodity source work in addition to the weed seed identification.

U.S. long grain rice

Additional work is needed on authentic samples to build a library of patterns to match against. This would allow us to computer match the HPLC patterns as is now done with infrared and other spectra.

Submitted by David Campbell

Workbench Version 2 Release

April 2006

CPHST Workbench

Workbench Version 2, the CPHST Project Management and Skills Inventory application, was released on February 10. The integrated and improved version of Workbench is open to all CPHST employees at workbench.cphst.org. Three major upgrades and over 300 minor changes were completed on this project.

Major upgrades include the integration of the CPHST Skills and Knowledge Inventory (SKI) and Workbench into one application. The one stop application significantly reduces duplication and overlapping information contained in the original Workbench and SKI databases. Another added feature is the Publications Search page. Workbench users can customize their Publications Search by selecting search parameters such as a keyword, author, or National Science Program. The budget module, to be activated in the near future, is the final major upgrade for Version 2. It is scheduled for activation soon. The hundreds of minor changes, too numerous to mention here, are the results of feedback from users throughout the organization.

Workbench and SKI users should review their information in Version 2 to make any necessary additions or changes to complete their record. There are some specific areas in the new version of Workbench where additional information is needed to complete existing records. Some of those areas include the Accomplishments, Employee Information Records, and the Skills and Knowledge Inventory. Your local Workbench advisor will help you locate the changes.

Many in CPHST contributed to the success of the project over the past several months. **Heike Meissner** and **Andrea Lemay**, with their first hand knowledge of Workbench, were crucial in the early stages to smooth the transition to a new design team. The new team included **Jim Shepley**, **Mike Garrity** and programmer **Alex Belskis** from the Center for Integrated Pest Management. The team pulled together the seemingly endless list of specifications, tested the application and coordinated the user acceptance test. **Karen Abernathy** and **Barbara Sowell** provided the number crunching specifications for the Budget Module.

All of the CPHST labs have a resident Workbench advisor to train users and provide assistance as needed. Your Workbench advisors are **Stephen Kirpes**, **Michelle Walters**, **Melinda Sullivan**, **Andrea Lemay**, **Corina McArthur**, **Elizabeth Twieg**, **Bill Guyton** and **Jim Shepley**.

Submitted by Jim Shepley

Quads Meeting

April 2006

The Quads Scientific Collaboration meeting was held in Raleigh, NC on February 23- 24, 2006, prior to the 16th Annual Plant Health Quadrilateral Meeting held in Puerto Rico. The Quads Scientific Collaboration group was established to provide scientific support to the Plant Health Quadrilateral partners: Australia, Canada, New Zealand, and the U.S. As challenges to plant protection are becoming more numerous and costly to overcome, collaboration between like-minded countries, such as the Quads, is critical. Each Quad country represents an untapped resource to leverage plant protection technologies to address mutual plant protection concerns.

The representatives at the meeting included **Cheryl McRae** (AU), **David Porritt** (AU), **Lois Ransom** (AU), **Cameron Duff** (CA), **Marie-Claude Forest** (CA), **Manjeet Sethi** (CA), **Debbie Pearson** (NZ), **Barney Stephenson** (NZ), **Dan Fieselmann** (US), **Gordon Gordh** (US), and moderator, **Woody Bailey** (US).

The group conducted discussions with enthusiasm, professionalism, and collegiality. Building on the Quads' effort from last year, the group decided upon 18 "Areas of Common Interest for Collaboration/Cooperation."

Following that, everyone agreed that it would be best to focus on a few manageable projects initially. The group decided upon 8 projects, including the Global Pest Disease Database (GPDD), Quads Scientific Collaboration Website, India phosphine, Australian Fumigation Accreditation Scheme (AFAS), Lucid keys, Diagnostics, Plants for Planting, and E-certification. For each project, the group proposed a project member from each country (which is subject to change), project lead, a reasonable scope of work, immediate tasks, and timelines. Countries are able to opt out of any projects. All eight projects were approved by the Quads at the meeting in Puerto Rico.

CPHST scientists gave presentations on topics including NAPPFAST, AIMS, GPDD, the CPHST Portal, the TQAU database, treatment training, and diagnostics. We gave the visitors a short tour of our facilities in Raleigh and the Center for Integrated Pest Management (CIPM). The Quads visitors said that they were impressed by the operations and staff. The Quads visitors liked the examples of work products resulting from CIPM's synergy with CPHST, and viewed them as a potential resource. Woody Bailey demonstrated the draft web site www.quadscoop.org as a tool to manage the initiative. This site will serve to match specific interests and projects with appropriate scientists from the four countries, showcase success stories that will give the Quads scientific collaboration initiative momentum, and coordinate collaborative projects.

The group decided upon a model for project coordination, starting with the country point of contact/country coordinator and ending with subject matter experts/ scientists. The group envisions continued leadership from the science contacts and coordinators (e.g., Gordon Gordh and Dan Fieselmann for PPQ). However, not all the primary contacts for each country are set.

The group referred several sensitive issues (e.g., PRA peer review) to Quads leaders for guidance.

Overall, the group became organized, built working relationships, and started down the road to increased scientific collaboration. The country representatives all presented a sincere interest in working collaboratively and sharing information gathered from their respective established projects. The visitors expressed sincere appreciation for the hosting of this meeting, which they viewed as a success.

Submitted by Dan Fieselmann & Lisa Jackson

CAPS Meeting

April 2006

The Cooperative Agricultural Pest Survey (CAPS) community gathered in early December for their biennial national meeting. The meeting was held at the Gaylord Opryland Resort in Nashville, Tennessee. Over 200 cooperators were in attendance, representing state departments of agriculture, universities, and various APHIS and PPQ programs.

What role does CPHST play in the CAPS program? During the national meeting, a session was devoted to the role of CPHST in CAPS and pest detection. The session was facilitated by **Dan Fieselmann**. **Laura Duffié** led off with a presentation on early detection, followed by **Woody Bailey** who provided an introduction to the Exotic Plant Pest Information Portal (**http://portal.cphst.org**). **Kim Schwartzburg** gave a presentation on CAPS pest prioritization (see CAPS National Pest List below). **Ned Jones** discussed statistical methods for pest surveys, and **Dan Borchert** illustrated NCSU/APHIS Plant Pest Forecast (NAPPFAST) system case studies. **Terrence Walters** concluded the CPHST session with a presentation on Lucid key development.

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CAPS National Pest List. Pests listed on the CAPS National Pest List are given first priority when it comes to funding for CAPS surveys. ***Who was involved in selecting the pests for the National Pest List and what criteria were used in the decision?*** The creation of the CAPS National Pest List was a large effort involving a long list of cooperators, including subject matter experts and decision makers. The decision makers were CAPS cooperators from CSREES, PPQ, IS, regional plant boards, state departments of agriculture, and universities, as represented on the CAPS National Committee. Over one hundred potential survey targets (plant pests), identified as exotic or of very limited distribution in the United States, were evaluated by subject matter experts against a criteria set that centered on the following major criteria: entry potential, establishment potential, potential for post-establishment proliferation and spread, economic impact, and non-economic impact. Using the analytic hierarchy process (AHP), decision makers assigned weights to the criteria set and each pest received a final score. High ranking pests were included in the CAPS National Survey List.

Commodity Focus for CAPS National Survey. The shift in national survey focus from a pest-based system to a commodity-based system was highlighted by a panel on the third day of the national meeting. The panel included CAPS National Survey Coordinator **Coanne O'Hern**, Western Region CAPS Program Manager **Bill Kauffman**, Eastern Region CAPS Program Manager **Brian Kopper**, and Dan Fieselmann, **Melinda Sullivan**, and Laura Duffié from CPHST. Selection of pests for survey within a state is generally dependent upon the commodities that the pest is expected to impact. The creation of national commodity surveys will simplify the task of selecting surveys and will facilitate cooperation between states and standardization of methods and diagnostics across states. From a regional and national perspective, it is anticipated that the data set will be more complete, providing a clearer picture of the presence or absence of multiple exotic pests across states and regions. States will still have the flexibility to incorporate pests of regional and state interest into the commodity surveys and to utilize pest-based surveys where appropriate. CPHST is offering support to commodity-based surveys by releasing commodity survey manuals and survey protocols.

Additional Meeting Highlights. The CAPS National Meeting spanned a wide variety of topics related to pest detection. Offshore initiatives were presented in a panel discussion led by **John Stewart** (APHIS IS) and **Parul Patel** (PPQ PDMP). Experiences in pest detection outreach were highlighted by **Amy Roda** (CPHST), **Eduardo Varona** (PPQ), and **Bob Benjamin** (PPQ). The hot zone approach was featured in a panel discussion, and a series of presentations focused on various PDA technologies. Updates on NAPIS were provided during the course of the meeting, and the meeting concluded with cooperative agreements, program updates, and FY05 summaries from the Eastern and Western Regions.

Submitted by Kim Schwartzburg

PPQ Needs Identification and Prioritization

April 2006

CPHST is responsible for addressing the scientific and technical needs of PPQ. With ever changing priorities within the agency, it can be difficult for us to quickly redirect research and development activities away from last year's priorities to address emerging issues and our stakeholders' new requirements. For some scientists, it seems that as soon as you get geared up to address an issue, the direction has been changed and you're being pulled in a different direction. We can minimize, but not eliminate, the redirection by ensuring we focus and solve the highest priority issues first, and then address secondary issues.

The PPQ-wide call for work in 2002 solicited input from all levels of the agency regarding their scientific and technical needs. It was very successful in identifying the agency's long-term priorities. The process, however, was overly burdensome for addressing rapidly evolving or emerging critical issues. Many of the issues identified in the 2002 solicitation were addressed and resolved by CPHST while others were determined to be no longer relevant or priority for operational programs. Other issues continue to be addressed.

PPQ's scientific and technical needs identification and prioritization process was refined this year to rely more on the program managers in Riverdale and regional offices, as well as field staff, to determine their technical needs, establish priorities and communicate this information to CPHST through the Associate Directors of Emergency and Domestic Programs (**Matt Royer**) and Plant Health Programs (**Jane Levy**).

Most of the needs are represented in operational programs that have standing committees or similar groups that convene at least annually to discuss program accomplishments and establish new goals. These groups typically have representation from the regions or field level to ensure all perspectives are included in establishing our research priorities. CPHST scientists, lab directors or NSPLs are often involved with these groups and serve as technical specialists. With this approach, scientists and lab directors in some programs will know operational priorities more quickly than they have in the past and will be able to initiate changes in research to be more responsive to operational needs.

The revised list of priority issues is scheduled to be received by CPHST Headquarters in late March. It will be distributed to the lab directors and NSPLs to determine which scientists will address which of the needs and what resources will be necessary. Receiving this information now allows CPHST scientists the opportunity to wrap up projects that will not be continued and develop new work plans to address newly identified priorities. Current work for some projects can be immediately revised to maximize benefits to PPQ programs. The new approach should result in more timely communication of scientific and technical needs and improved response by CPHST to redirect resources.

Submitted by Alan Dowdy

PHP & CPHST Exchange Program

April 2006

Until about a month ago CPHST was a mystery to me, just another acronym to remember. All I really knew was that if I had a critical scientific issue, CPHST was ready and willing to work through the technical aspects to find a solution. So when **Alan Green** announced that PHP would be starting an exchange program with CPHST, I was first to volunteer.

In February, I was given the opportunity to spend a month with **Scott Wood** and the TQAU team in Raleigh, NC. As a member of the QPAS staff, treatments are always on the forefront, and therefore, this was a good match for me. While in Raleigh, I spent time learning about how the treatment unit makes decisions, runs their databases, and audits fumigations. I also presented the new web based version of the EAN database that will be in operation in early June. **Kellie Shobe** (TQAU) and I discussed the possibilities of linking the EAN and 429 (Fumigation Report) databases in order to make a more efficient system for the field and, in return, collect more accurate data.

One of my most valuable experiences was the opportunity to sit down with several of the National Science Program Leaders. I knew that Pest Risk Assessments came from CPHST and that we could call down for treatment issues, but I had no idea that the research was so varied from agro-terrorism to integrated pest management. Many of the staff scientists also made themselves available and I was able to get an idea of what kinds of projects they are interested in.

This exchange program is a great chance for all of us to really understand each other's agency and communicate the program's needs between the staffs. This was a great time for me to meet both the current and future leaders of a vital part of the APHIS team. I would highly encourage others to spend some time in an area that is new and of interest to them. This might be an opportunity to discover a different way to look at your current project, collaborate with a team in Riverdale, or maybe even change direction completely.

Lastly, I would like to thank **Dr. Gordon Gordh** and **Dr. Alan Dowdy** for giving me the opportunity, Scott Wood and his staff for helping me wade through treatments, and the many scientists that took the time to explain their work.

Gretchen Rector's visit to a log fumigation facility in Harrisonburg, VA.

Submitted by Gretchen Rector

PERAL Library

April 2006

The Plant Epidemiology and Risk Analysis Laboratory (PERAL) now has a fully functional library! Over the past eight years, PERAL has purchased or received donated publications, including some rare pieces of scientific literature. It did not take long to accumulate a vast collection. With this, it became increasingly difficult to locate references and the lab was concerned about potential redundancy in acquisitions and more efficient tracking of existing resources. It was time to develop a better system for organizing and managing the collection.

In July 2004, PERAL scientists formed a committee charged with creating an effective library system. The committee's recommendation to hire a professional librarian was subsequently approved and followed by recruiting **Lucy Reid**. Lucy proved to be the perfect candidate because her background encompasses not only library science but natural science as well. Lucy began her career with a B.S. in Biology coupled with 6 years as a genetics laboratory technician at North Carolina State University. Then she went on to earn an M.S. in Library Science from the University of North Carolina at Chapel Hill. Prior to coming to PERAL, she was a corporate librarian for CP&L (now known as Progress Energy), information specialist for the Center for Transportation and the Environment, news researcher with the News and Observer, and librarian in the Documents Branch of the State Library of North Carolina. She is a valuable and indispensable resource here at PERAL. She selected and implemented library software and converted PERAL's unwieldy collection to an electronic catalog system based on the Library of Congress classification.

Her resource management skills are improving the professional appearance of the lab by increasing the accessibility to in-house resources, assisting with procuring difficult to obtain journal articles, and increasing transparency in PERAL documents by streamlining the maintenance of cited references. Also, Lucy is actively involved with training international scientists visiting PERAL, specifically in the area of literature searches.

Due to Lucy's expert opinion, she will be traveling to other CPHST labs to see if there are any reference or information needs where she might be of assistance. Please welcome Lucy to your laboratory upon her visit!

Submitted by Andrea Lemay & Woody Bailey

Special Emphasis Program Events at the ANPCL & SIPS

April 2006

Look around and you will see that our society is very diverse. Diversity enriches our lives. By learning to recognize our similarities and appreciate our differences, together we can overcome prejudice and intolerance and work towards a more peaceful and productive world. In compliance with USDA's Special Emphasis Program, specific months of the year are set aside to honor special ethnic groups for their contributions to the world.

Black Americans have helped shape who we are as a nation and continue to play important roles in fields ranging from education to entertainment. From the painful passage of the civil rights movement, to the soaring magic of Jordan, the passion of Gates, and the hip-hop beat of Usher, the courageousness and commendable accomplishments were celebrated during **Black History Month** in February. February 10, 2005, the Analytical & Natural Products Chemistry Laboratory (ANPCL), Soil Inhibiting Pest Section (SIPS), the Center for Plant Health & Technology (CPHST), Plant Protection & Quarantine (PPQ), and Wildlife Services employees celebrated with a "soul food" luncheon. There was 100% participation from employees to prepare the meal consisting of greens, macaroni and cheese, candied yams, cornbread, banana pudding, and Bar-BQ chicken and ribs. **Rev. Willie Williams** was a guest speaker and gave a very informative, yet memorable, speech about becoming one of the first blacks to join the International Brotherhood of Pipefitters in the 1950's in Chicago, Illinois. The celebration ended on a good note.

Women's History Month, celebrated in March, gave us a special occasion to honor and recognize American women for transforming culture and politics as leaders, writers, scientist, educators, politicians, artists, historians, and informed citizens throughout history. Many years ago, women weren't allowed equal freedom and rights that were bestowed upon men. They were thought to be second rate citizens. However, changes came slowly but surely and women were finally given the right to vote, which was a stepping-stone to equality between women and men. We at ANPCL & SIPS, along with other USDA employees, celebrated March 17, 2005 reflecting on past times and commemorating women's exemplary accomplishments. The men of the facility organized, supplied and prepared a luncheon to express their heartfelt appreciation for the female staff members. The luncheon menu consisted of hot dogs, hamburgers, and baked beans. A video titled "*Nobody's Baby*" was viewed during the luncheon. Again, there was 100% participation from the employees.

Women's History Month - Joe Dawson and Craig Hinton cooking (left) and the group enjoying the meal prepared by the men of the Gulfport, MS facility (right).

May is dedicated to promoting awareness of and appreciation for the historical contributions of Asian and Pacific peoples in the United States and its associated territories. From the early 1800's to the 21st century, Asian and Pacific peoples have played vital roles in the development of the United States and made lasting contributions in all elements of American society. During **Asian/Pacific American Month**, ANPCL employees **Bich Tran** (Vietnam and China), **Connie Ramos** (Philippines and Japan) and **Jennifer Garrido** (Guam) brought cultural display items to represent the different cultures throughout Asia and the Pacific. On May 18, 2005, a luncheon was held at the largest Chinese buffet in Gulfport, Mississippi to show utmost respect to Asians and Pacific Islanders. **Mr. Kong**, the manager of the restaurant and guest speaker at this event, spoke of his journey from China to Alabama to Mississippi. Employees from ANPCL, SIPS, CPHST, PPQ, and Wildlife Services enjoyed Mr. Kong's interesting speech and the delightful Chinese food.

Asian/Pacific American Month: Left: Displays to celebrate and share the Asian and Pacific American heritage.
Right: Marsha Lowe introducing the speaker, Mr. Kong, during the luncheon.

Submitted by The Special Emphasis Committee, PPQ-CPHST– ANPCL

Admin Tidbits-FY 2006 Allocation

April 2006

It's Official! The Fiscal Year 2006 CPHST allocation is available! We have received an availability of slightly more than $28 million for our base and project activities, representing 20 individual Congressional Line Item entries. This funding includes approximately $3 million earmarked for specific project areas, such as emerald ash borer, Asian longhorn beetle, sudden oak death, and other high priority matters. The remaining $25 million provides an increase of about $1 million from our Fiscal Year 2005 annual funding level. From this allocation, base budget needs have been funded to cover salary and benefit costs and routine travel, utility, service, and supply expenses. The CPHST base budgets amount to $21.5 million for FY 2006, with the remaining $3.5 million allocated to both ongoing and new projects. The project allocations fund specific expenses including some Term/Temp positions, direct travel, service, supply, and equipment needs, as well cooperative and interagency agreements in support of our project goals. The funding received furnishes a satisfactory basis from which to carry on operations at the current level of effort.

APHIS will begin utilizing a new financial tracking system, the APHIS Cost Management System (ACMS), beginning in October 2006. The web-based system will allow for obligation tracking at the funded unit level, providing consistent validated current and projected expenditure data for each accounting code. Individual accounts and summary level reporting will be available, utilizing the combination of user entered and system generated data. Training for the new system is expected to be provided during the CPHST Administrative Conference in Raleigh, scheduled for the week of May 15. We are looking forward to a successful launch of the new system, which has already been implemented for other USDA agencies.

CPHST Annual Funding History FY 2002 – FY 2006 ($ in Thousands)

2002	$20,893
2003	$22,853
2004	$22,923
2005	$24,377
2006	$25,307

New Financial System

acms
APHIS Cost Management System

CPHST Budget Contact Information

The CPHST Director's Office has recently revised the distribution of administrative responsibilities. For questions or concerns related to budget and accounting issues, please continue to contact **Barbara Sowell**, Budget Analyst, or **Karen Abernathy**, Administrative Officer.

Submitted by Barbara Sowell

Retirement Party

April 2006

On January 28, 2006, an outdoor party to celebrate the retirements of **Nick Colletto** and **Bob Staten** was held at the South Mountain Park overlooking the city of Phoenix, Arizona. The party was jointly hosted by employees of the USDA, APHIS, PPQ, CPHST, DC&PMSL and employees of the Arizona Cotton Research and Protection Council in Phoenix. The party featured a carne asada barbecue, a southwestern tradition for special gatherings, conversation among attendees, the honored guests and their families, short remembrance talks, and some serious and not so serious presentations. About 90 people were in attendance for the festivities, reuniting many old friends and acquaintances. The attendees included foreign, federal, state, university and private industry cooperators and clients, as well as numerous ex and co employees.

The event was held on a beautiful spring day in the Sonoran Desert. Not only was it a perfect day, but in keeping with the traditions of both Nick and Bob of setting records in commitment and persistence during their careers, a record was also set on this day for consecutive days without rain in Phoenix, a record that continues as of this writing.

A universal gift certificate (cashiers check), along with numerous personal gifts, were received by the both honorees. A great and sometimes emotional time was had by all.

Comments were delivered by several current and retired collaborators and employees. Speakers and presenters included:
Larry Antilla (Phoenix, Az, ACR&PC),
Nelson Foster (Phoenix, AZ, CPHST),
Julie Gould (Otis,MA, CPHST),
Greg Simmons (Phoenix, AZ, CPHST),
Elba Quintero (APHIS MEXICO REGION ret.),
Dave Bartels (Mission, TX, CPHST),
Jim Rudig (Sacramento, CA,CDFA),
Helena Gomez (Mexico),
Francisco Corrales (Mexico),
Micky Sledge (Phoenix, AZ, CPHST),
Agenor Mafra-Neto (Riverside CA, ISCA Technologies),
Jack Jenkins (Phoenix, AZ, Pacific Biocontrol),
Some special presentations were also delivered in abstention by the CPHST Laboratory in Otis, MA.

Above: Bob and Sandy Staten

Right: Nick Colletto

Submitted by Nelson Foster & Greg Simmons

Get to know the new CPHST team!

CPHST Spotlight: Stephanie Bloem

April 2006

Stephanie was born in Mexico City and grew up in Guatemala. She has a Licenciatura in Biology from Universidad del Valle de Guatemala and a Doctorate in Entomology from the University of California at Davis. In 1984, she married Ken Bloem and has followed his career around to various positions, discovering her own opportunities. She worked as a contractor in Guatemala for the IAEA assessing the field quality of mass-reared Medfly. She then joined the USDA-ARS in Yakima, WA to provide research support to the codling moth Sterile Insect Release Program in Canada, concentrating in the areas of quality and process control, integrating diapause into mass-rearing, and using inherited sterility to improve field quality of sterile moths. When Ken was hired by APHIS to be a co-director for the Center for Biocontrol at Florida A&M University in Tallahassee, Florida in 1998, Stephanie became an adjunct professor at FAMU where she gave lectures in biocontrol and IPM and advised master's level students. She continued consulting for IAEA in area-wide pest management and sterile insect technology (SIT) for moth pests in developing countries, including South Africa, Mauritius, Algeria, Argentina, Chile and Slovakia. She also contracted with USDA-ARS on basic and applied invasive cactus moth research. The Bloem's moved to Raleigh in June 2005 when Ken accepted a position as coordinator for biocontrol with CPHST. Stephanie was hired by PERAL as a training specialist in 2006. When she and her husband are not talking about work, Stephanie enjoys cooking, drinking wine, birding, and playing with their chocolate lab Mocha.

CPHST Spotlight: Lisa Kennaway

April 2006

Lisa Kennaway works as a geographer with CPHST's Surveillance Technology Unit (STU) based in Fort Collins, Colorado. While Lisa has worked with the STU for two years, her employment has recently transferred from a cooperative position with Colorado State University to a federal based position within USDA APHIS.

Lisa's work with the STU complements her diverse background in the geospatial sciences. She has designed, developed, and managed databases for historical survey data; provided GIS technical support to the entire PPQ community and beyond; and served a leadership role in the development and distribution of International Standards Organization (ISO) standards for spatial technology within CPHST. In addition, Lisa serves as lead scientist on several remote sensing projects with the focus being on evaluating methodologies for mapping the impacts of biocontrol efforts on invasive weeds such as saltcedar (*Tamarix* spp.).

Prior to working with CPHST, she worked for a research unit at Colorado State University funded by the Department of Defense and provided scientific support to the Integrated Training Area Management program. Her specific duties focused on providing spatial technology advancement to military installations across the United States. Lisa earned her M.S. in Rural Geography and Public Planning from Northern Arizona University in 1998 where she studied the application of GIS and GPS to human impact monitoring in wilderness areas. Her research provided much needed data and analysis to help protect precious rock art resources within the Kanab Creek Wilderness Area.

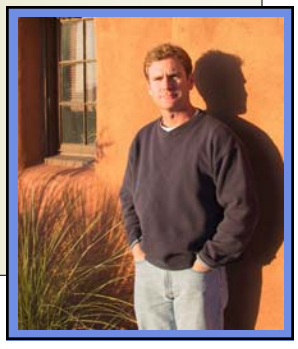
CPHST Spotlight: Jeff Drake

April 2006

After fifteen years with NASA, Jeff Drake joined CPHST's National Weed Management Laboratory (NWML) in Fort Collins, CO as an engineer in April 2005.

Jeff grew up in Montana, as the middle child in a great family of seven children. Camping, hiking, fishing, and skiing were his primary pastimes, and he developed a love and appreciation of the great open spaces in the West.

In 1989, he completed a 3-2 engineering program earning his B.A. in Mathematics from Carroll College in Helena, MT and his B.S. in Electrical Engineering from Columbia University in New York City, NY. After completing his undergraduate work, Jeff went to work for NASA at the Goddard Space Flight Center near Washington D.C. as a computer engineer. After spending five years in the D.C. area, he transferred to a NASA facility at White Sands Missile Range in New Mexico where he worked as a systems engineer in the satellite communications facility. While in New Mexico, he completed his M.S. in Electrical Engineering in 1996. With the help of a NASA fellowship award, he completed his Ph.D. in Electrical Engineering in 2000 at New Mexico State University (NMSU), Las Cruces, NM. His thesis research focused in estimation and detection of signals and artificial neural networks for pattern recognition. During Jeff's fellowship, he worked with entomologists at NMSU to apply computer based image processing and pattern recognition techniques to the identification of large samples of insects for biological control applications. He found this work very rewarding, and it led to his eventual transfer from NASA to CPHST, where he continues to develop automated systems to assist in the identification of insect samples for a wide variety of applications. Jeff works out of a lab at NMSU in Las Cruces, NM where he lives with his wife Kelli and three children aged thirteen, five, and two. The family spends as much time as possible enjoying the beautiful deserts and mountains of the southwest.



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PPQ Deputy Administrator's Safeguarding Award

April 2006

The Treatment Quality Assurance Unit (TQAU) received the prestigious PPQ Deputy Administrator's Safeguarding Award on January 23, 2006. The recipients of the award are **Scott Wood, Dean Komm, Jeff Beaman, Ian Winborne, Kellie Shobe, and Megan Remmers**. This award is given "in recognition of initiatives and innovations that make significant contributions to furthering the goal of safeguarding American agriculture and plant resources." This award has been given out for the past 3 years. Past awards have gone to the Caribbean Offshore Risk Mitigation Group, the Miami Post Interdiction Committee, and the Hot Zone Concept Group. TQAU is the first group within CPHST to receive this award.

TQAU's work that led to the award was centered around a web-based intelligence system. The system is composed of two main components, a data entry, summarization, and storage system for 429 commodity fumigations and three web-based reference systems (Web-based Treatment Manual Index, Web-based Container and Vessel Certification & Tracking Database, and the Q56 Fresh Fruits and Vegetables Web-based Reference Database). Each one of these four database-driven web applications share information with each other resulting in a highly integrated intelligence system. Further, each of the four components has been designed to maximize scalability and allow expansion and integration with other systems in the future. TQAU is currently developing and testing several new systems that will be incorporated with the existing systems into the "Commodity Treatment Intelligence and Resource System." Included in these new systems are the 556 Cold Treatment Tracking System, a system for remote (shipboard) monitoring of cold treatments, and a system for remote monitoring of Niger seed treatments.

Of the award, Scott Wood, TQAU Director, says, "I am very proud of this great award and feel that it reflects the high quality work of the TQAU team. I encourage other groups in CPHST to apply for this award in the future because I know that so much outstanding research is being conducted within CPHST."

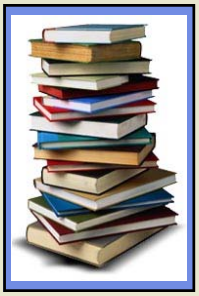
Submitted by Ian Winborne

CPHST Publications

April 2006

Tubajika, K. M., Bulluck, R., Shiel, P. J., Scott, S. E., and Sawyer, A. J. 2006. The occurrence of *Phytophthora ramorum* in nursery stock in California, Oregon, and Washington states. Online. *Plant Health Progress* doi:10.1094/PHP-2006-0315-02-RS. http://www.plantmanagementnetwork.org/php/.

Venette, Robert C. and Gould, Juli R. 2006. A pest risk assessment for *Copitarsia* spp., Insects associated with importation of commodities into the United States. *Euphytica* 19:1-19.



WANTED: CPHST PUBLICATIONS AND AWARDS

CPHST, we would like to include your recent publications and awards in our next newsletter issue. We are looking for outside-the-agency peer reviewed publications and awards received from organizations external to CPHST (this does not include self-nominated awards). Don't be modest; we want to acknowledge the excellent and honorable work you have done.

Send the award and publication announcements to Christina.l.lohs@aphis.usda.gov.